

## © EPODOC / EPO

PN - JP1265881 A 19891023  
 TI - **BIOCATALYST MEMBRANE WITH HYDROPHOBIC POROUS LAYER**  
 AB - **PURPOSE:** To provide the title membrane easy to discharge or feed in case the products and reactants are gases, thus enabling highly efficient bioreactors to be constituted, comprising a layer having only hydrophobic pores of specified size or smaller and an enzyme and/or microorganism-immobilized porous layer. **CONSTITUTION:** Firstly, a hydrophobic membrane 1 having only hydrophobic pores  $\leq 0.2 \mu\text{m}$  in size is prepared by e.g., mixing acetylene black with particulate water-repellent resin such as PTFE followed by mutual firm bonding with e.g. a hot press into a film. The objective biocatalyst membrane is comprised of said hydrophobic membrane 1 and a hydrophobic porous layer 2 for immobilizing biocatalyst. Said hydrophobic porous membrane can be prepared by e.g., binding, with a polymer, hydrophobic fine granules such as of silica or alumina or hydrophobic porous polymer membrane. The microorganisms as said biocatalyst is e.g., an enzyme such as uricase or urease, yeast, various kinds of productive bacteria.

FI - C02F3/00&G; C08J9/36+CEW; C12M1/40&A; G01N27/30&361  
 PA - FURUYA CHOICHI  
 IN - FURUYA CHOICHI  
 AP - JP19880022402 19880202  
 PR - JP19880022402 19880202  
 DT - I

## © WPI / DERWENT

AN - 1989-353733 [48]  
 TI - Bio:catalyst film having layer with hydrophobic pores - used e.g. for bio:reactor bio:sensor or artificial kidney  
 AB - J01265881 One of biocatalyst films is composed of (A) layer having hydrophobic pores of up to 0.2 micron alone and (B) hydrophobic porous layer immobilising enzyme and/or microorganism. The other comprises adding electrode catalyst layer to the biocatalyst film composed of (A) and (B) layers to give electrode function.  
 - **USE/ADVANTAGE** - The biocatalyst films are used for appts to react bio:material, eg bioreactor, biosensor or artificial kidney. Bioreactor of high efficiency is composed by layer having hydrophobic pores, because gaseous prod or reactant is emitted or supplied easily. (0/0)  
 IW - **BIO CATALYST FILM LAYER HYDROPHOBIC PORE BIO REACTOR BIO SENSE ARTIFICIAL KIDNEY**  
 PN - JP1265881 A 19891023 DW198948 006pp  
 IC - C02F3/00 ; C08J9/36 ; C12M1/40 ; G01N27/30  
 MC - A12-S06 A12-W11K A12-W11L B04-B02B B04-B02C B04-C03B B04-D02 B05-A01B B05-B02C B05-C06 B11-C08 B12-G03 B12-K04A D04-A01D D04-A01J D05-A01 D05-A03A D05-H09 J04-B01 J04-E04  
 - S03-E03C S03-E14H  
 DC - A96 A97 B04 D16 D16 J04 S03  
 PA - (FURU-I) FURUYA C  
 AP - JP19880022402 19880202  
 PR - JP19880022402 19880202

## © PAJ / JPO

PN - JP1265881 A 19891023  
 TI - **BIOCATALYST MEMBRANE WITH HYDROPHOBIC POROUS LAYER**  
 AB - **PURPOSE:** To provide the title membrane easy to discharge or feed in case the products and reactants are gases, thus enabling highly efficient bioreactors to be constituted, comprising a layer having only hydrophobic pores of specified size or smaller and an enzyme and/or microorganism-immobilized porous layer.

- CONSTITUTION: Firstly, a hydrophobic membrane 1 having only hydrophobic pores  $\leq 0.2 \mu$  in size is prepared by e.g., mixing acetylene black with particulate water-repellent resin such as PTFE followed by mutual firm bonding with e.g. a hot press into a film. The objective biocatalyst membrane is comprised of said hydrophobic membrane 1 and a hydrophilic porous layer 2 for immobilizing biocatalyst. Said hydrophilic porous membrane can be prepared by e.g., binding, with a polymer, hydrophilic granules such as of silica or alumina or hydrophilic porous polymer membrane. The microorganisms as said biocatalyst is e.g., an enzyme such as uricase or urease, yeast, various kinds of productive bacteria.

I - C12M1/40 ; C02F3/00 ; C08J9/36 ; G01N27/30  
 PA - CHOICHI FURUYA  
 IN - FURUYA CHOICHI  
 ABD - 19900118  
 ABV - 014024  
 GR - C677  
 AP - JP19880022402 19880202